

TITLE OF THE INVENTION

USES OF ALPHA-CONOTOXIN PEPTIDES

ABSTRACT OF THE DISCLOSURE

5           The present invention relates to the use of  $\alpha$ -conotoxin peptides having the general formula  
Xaa<sub>1</sub>-Xaa<sub>2</sub>-Cys-Cys-Xaa<sub>3</sub>-Xaa<sub>4</sub>-Pro-Xaa<sub>5</sub>-Cys-Xaa<sub>6</sub>-Xaa<sub>7</sub>-Xaa<sub>8</sub>-Xaa<sub>9</sub>-Xaa<sub>10</sub>-Xaa<sub>11</sub>-Xaa<sub>12</sub>-Cys (SEQ  
ID NO:1) for treating disorders regulated at neuronal nicotinic acetylcholine receptors. Such  
disorders include, but are not limited to, cardiovascular disorders, gastric motility disorders, urinary  
incontinence, nicotine addiction, mood disorders (such as bipolar disorder, unipolar depression,  
10 dysthymia and seasonal effective disorder) and small cell lung carcinoma, as well as the localization  
of small cell lung carcinoma. In this formula, Xaa<sub>1</sub> is des-Xaa<sub>1</sub>, Tyr, mono-iodo-Tyr or di-iodo-Tyr,  
Xaa<sub>2</sub> is any amino acid, Xaa<sub>3</sub> is any amino acid, Xaa<sub>4</sub> is any amino acid, Xaa<sub>5</sub> is any amino acid;  
Xaa<sub>6</sub> is any amino acid, Xaa<sub>7</sub> is any amino acid, Xaa<sub>8</sub> is any amino acid, Xaa<sub>9</sub> is des-Xaa<sub>9</sub> or any  
amino acid, Xaa<sub>10</sub> is des-Xaa<sub>10</sub> or any amino acid, Xaa<sub>11</sub> is des-Xaa<sub>11</sub> or any amino acid and Xaa<sub>12</sub>  
15 is des-Xaa<sub>12</sub> or any amino acid. Disulfide linkages exist between the first and third cysteines and  
the second and fourth cysteines. Pro may be replaced with hydroxy-Pro. The C-terminus may  
contain a hydroxyl or an amide group, preferably an amide group.